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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/636,142	08/06/2003	Yoshihiro Ue	01232D/LH	2383

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EXAMINER

FINEMAN, LEE A

ART UNIT PAPER NUMBER

2872

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/636,142	UE, YOSHIHIRO	
	Examiner	Art Unit	
	Lee Fineman	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-9 is/are allowed.
- 6) ☒ Claim(s) 10-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/836379.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3 December 2005 has been entered in which claims 3-6 were cancelled and claims 7-15 were added.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada, U.S. Patent Application Publication No. US 2001/0024320 A1.

Regarding claim 14 and 15, Okada discloses a focus stabilizing apparatus (fig. 1) comprising an objective lens (8) and an observation sample (M); a fixing base (7 with 11, when vibration unit as shown in fig. 3 is between 7 and 8; see page 3, section [0052], lines 11-15); a sample base/stage (2) for supporting the observation sample (M) is placed; a minute movement table (12) on which the objective lens is fixed; a movement mechanism (14) situated between the fixing base and the minute movement table (fig. 3) to allow the minute movement table to be moved in an optical axis direction of the objective lens; a drive mechanism (13) provided

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between the fixing base and the minute movement table to minutely displace the minute movement table in the optical axis direction of the objective lens (fig. 4); a displacement sensor (15) for detecting a displacement amount (page 3, section [0049]) of the objective lens; a controller (16) for allowing the actuator/drive mechanism to perform an extending/contracting operation based on a detection output of the displacement sensor to control the objective lens and bring it to a just-in-focus position relative to the observation sample; and the fixing base is fixed to a revolver in the microscope (see page 3, section [0052], lines 11-15). Okada discloses the claimed invention except for the microscope being an inverted microscope and the stage fixed above the revolver and the objective lens arranged underneath the observation sample so as to face the observation sample. Official Notice is taken that inverted microscopes are very well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the microscope of Okada an inverted type microscope to provide a much larger sample area and be able to examine larger samples like biological culture containers. Therefore, the stage would be fixed above the revolver and the objective lens would be arranged underneath the observation sample so as to face the observation sample.

4. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada, as applied to claim 15 above, and further in view of Tomiyama et al., U.S. Patent No. 5,521,762.

Regarding claims 10 and 12, Okada further discloses the movement mechanism (14) to be springs. Okada discloses the claimed invention except for the springs being parallel springs. Tomiyama et al. teaches an objective lens holder (figs. 3 or 4) with parallel springs (60, 62, 70, 72) that allow a minute movement table (50) to be moved in an optical axis direction of the

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objective lens (not shown, at 100). It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the springs of Okada with that of Tomiyama et al. because the springs can be efficiently manufactured from one piece to save manufacturing time as well as reduce costs (column 6, lines 31-40, Tomiyama).

Regarding claim 11, Okada further discloses a control loop for adjusting distance (page 3, section [0049]) with a memory section for storing an output of the displacement sensor corresponding to a just-in-focus state between the observation sample and a focal point of the objective lens (in so far as a no vibration state (or zero state) is stored in the controller 16 when the object is in focus); a comparing section (16) for comparing an output of the displacement sensor ($p>0$) and an output of the displacement sensor stored in the memory section ($p=0$); and a control section (16) for outputting an electrical signal (s) for canceling a distance variation between the observation sample and the objective lens based on a result of comparison by the comparing section (page 3, section [0049]).

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okada in view of Tomiyama et al., as applied to claim 10 above, and further in view of Okazaki et al., U.S. Patent No. 6,437,343 B1.

Although the displacement sensor is detecting a displacement amount (page 3, section [0049]) between the objective lens and the stage, Okada in view of Tomiyama et al., as applied to claim 10 above, does not explicitly state that the displacement sensor comprises a target provided at a vicinity of an end of the objective lens and a detector provided at the stage. Okazaki et al. teaches a microscope scanning system in fig. 4 including a displacement sensor

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(204, 207) that comprises a target (207) provided at a vicinity of an end and a detector (204) at the other end. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use this type of displacement sensor, as suggested by Okazaki et al. in the system of Okada in view of Tomiyama et al. to provide highly accurate displacement measurements (Okazaki, column 10, lines 23-25). In the instant case, since the displacement amount is between the objective lens and the stage, one of the target or the detector would be provided at the vicinity of an end of the objective lens and the other at the stage.

Allowable Subject Matter

6. Claims 7-9 are allowed.

7. The following is an examiner's statement of reasons for allowance:

Claims 7-9 are allowable over the prior art for at least the reason that the prior art fails to teach and/or suggest a focus stabilizing apparatus including a minute movement table, parallel springs and a displacement sensor and "a focus adjusting mechanism which continuously extends between the sample base and the fixing base and surrounds the objective lens, for varying a distance along an optical axis between the sample base and the fixing base" as set forth in the claimed combination.

Okada discloses a focus stabilizing apparatus as set forth above comprising an objective lens (8), an observation sample (M); a fixing base (7 with 11, when vibration unit as shown in fig. 3 is between 7 and 8; see page 3, section [0052], lines 11-15); a sample base (2); a minute movement table (12); a movement mechanism (14); a drive mechanism (13); a displacement

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sensor (15); and a focus adjusting mechanism (unnumbered; fig. 1) which continuously extends between the sample base/stage (2) and the fixing base (in so far as the frame (1) and the arm (3) are part of the focus adjusting mechanism), but does not also surround the objective lens as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (571) 272-2313. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LAF
February 3, 2005


MARK A. ROBINSON
PRIMARY EXAMINER